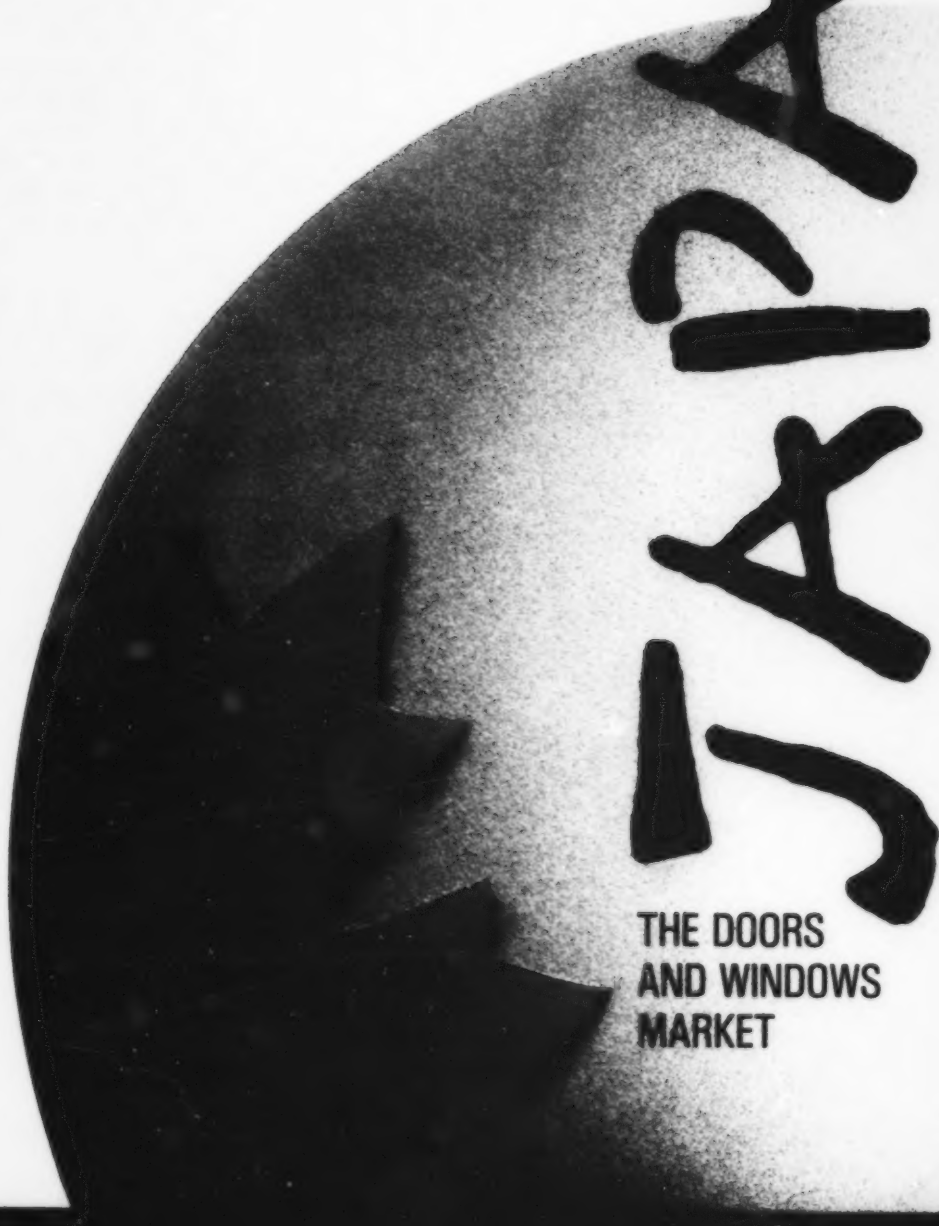
EXPORT
OPPORTUNITIES
IN

JAPAN



THE DOORS
AND WINDOWS
MARKET

92-05188/

THE DOORS AND WINDOWS MARKET

by K. F. International, Inc.
Tokyo

and

Saican Consultants Inc.
Montreal

Members of Strategy Analysis International

prepared for

The Japan Trade Development Division
External Affairs and International Trade Canada

March 1989

JAPAN

Preface

Canadian exporters are discovering a new Japan. Firms which have focussed their efforts on specific target market segments have seen their results soar. Their success bears witness to important changes which have recently occurred in the Japanese market.

Since the mid 1980s, the substantial appreciation of the yen, Japan's concerted policy of domestic demand stimulation and a shift towards a more open import regime have significantly enhanced the competitiveness of Canadian goods in the Japanese market. Specific opportunities have emerged in areas previously closed to foreign suppliers.

This "Export Opportunities in Japan" series is published by External Affairs and International Trade Canada to assist Canadian exporters in seizing these exciting new opportunities. It pinpoints specific market segments where new Japanese import demand meets proven Canadian capability. It includes market segment profiles, details specific market technical characteristics, documents success stories and provides market bibliographies and key contact lists.

The series is designed not only as a reference and guide but also as the basis for future joint marketing action by Canadian firms, their trade associations and Canadian government departments. The series has been produced in consultation with the Japanese Export Trade Organization (JETRO) and has the support of the Japanese Ministry of International Trade and Industry (MITI).

Further information and guidance is available from:

Japan Trade Development Division (PNJ)
External Affairs and International Trade Canada
125 Sussex Drive
Ottawa, Ontario
Canada K1A 0G2
Telex: 053-3745
Fax: (613) 996-9288/996-9103

The Canadian Embassy in Japan has made important contributions to this series of market studies. Additional assistance and information is available from the Embassy in Tokyo.

The Canadian Embassy
7-3-38 Akasaka, Minato-ku
Tokyo 107, Japan

Cable: CANADIAN TOKYO
Tel: (011-81-3) 408-2101/8
Telex: (Destination code 72) 22218
(DOMCAN J22218)
Fax: (G3 System) 03-479-5320

TABLE OF CONTENTS

		Page
List of Tables		4
1	Introduction	6
2	Overview of the Market	6
3	Trends in Supply	16
4	Trade Status	26
5	Trends in Demand	30
6	Distribution	32
7	Regulations and Standards	34
8	Points to Note in Approaching the Japanese Market	41
9	Trade Exhibitions and Important Associations	45
10	Conclusions	50

LIST OF TABLES

		Page
1	New Housing Starts in Japan	9
2	Non-Traditional Housing Construction	10
3	Home Renovation	11
4	Market for Doors in Japan	12
5	Swing Doors vs Sliding Doors	13
6	Type of Material Used in Doors	13
7	Market for Windows in Japan	14
8	Demand for Other Than Sliding Windows	15
9	Window Market by Type of Material	16
10	Aluminum Sash Production	17
11	Aluminum Sashes for Wooden Houses	17
12	Aluminum Sash Production	18
13	Steel Sash Production	19
14	Estimated Production of Plastic Windows	19
15	Production of Aluminum Doors	20
16	Production of Steel Doors	21
17	Apparent Demand for Wooden Entrance Doors	21
18	Market Shares of Aluminum Sash Manufacturers	24
19	Market Share for Steel Doors	24
20	Market Share for Vinyl Windows	25
21	Imports of Doors, Windows and Other Building Materials	26
22	Imports of Doors and Windows	27
23	Source of Imports by Product	28
24	Imports by Type of Window	29
25	Wooden Window Imports by Leading Importers	29

		Page
26	Market Share of Imported Windows by Brand	30
27	Testing Pressures and Performance Class	36
28	Air Infiltration Classes	36
29	Classes for Water Tightness	37
30	Thermal Insulation Classes	37
31	Standard Sizes for Door Sets	38
32	Standard Sizes for Doors	39
33	Standard Sizes for Windows	40
34	Import Tariffs on Doors and Windows	41

1 INTRODUCTION

Several characteristics of present day Japan combine to create a significant opportunity for Canadian manufacturers of quality door and window products. These are the rapid growth in the demand for Western-style housing, the strength of the yen and the traditional Japanese concern for quality and value.

The objective of this study is to provide Canadian door and window manufacturers with a basis on which to decide if they should invest the time required to develop markets in Japan and to then plan how to approach the market.

This report covers doors and windows of all materials for residential housing, with an emphasis on wooden products. The non-residential market is excluded from this study.

The time frame for the statistical data presented in the study is from 1982 to 1988 inclusively.

K. F. International in Tokyo, a member of the Strategy Analysis International (SAI) consulting group, began this study in collaboration with the Montreal office of SAI, Saican Consultants Inc., in January 1989. The study proceeded from the collection of statistical data through analysis of industry structure to meetings with selected key participants and industry observers.

Information on Canadian-made products was obtained from representative Canadian manufacturers with the assistance of the Canadian Door and Window Manufacturers Association. This information was used in discussions concerning the potential for Canadian products and know-how. The pertinent Canadian standards were also obtained for comparison with Japanese standards and testing procedures.

2 OVERVIEW OF THE MARKET

Key Design Influences

The characteristics of traditional doors and windows in Japan are very different from those used in the West.

Since the Japanese islands are located quite far south compared with Europe and North America, traditional Japanese houses are designed to allow free flow of air through the entire house. This enables people to live comfortably in the hot and humid summer season.

In contrast to this, the design of Western houses is primarily based on the need to live comfortably in winter. As a result, houses are designed to shut out wind and cold.

At present, Japanese technology and know-how in windows and doors, other than aluminum and steel, is behind that of Europe and North America.

Because of climatic and stylistic differences, Japanese designers of modern doors and windows are not, generally speaking, concerned about air tightness and thermal conductivity. Consequently, their designs do not deal with those properties.

This is changing, however, and there are already some notable exceptions, particularly for aluminum products which offer good water tightness against heavy rain.

The most important factor affecting the use of doors and windows is the trend to Western-style housing. Indeed, Western-style houses have become so popular that it is becoming rarer to see newly built traditional-style Japanese houses. The most notable Western style is the house of traditional Canadian construction from 2" x 4" lumber and known throughout Japan as a "2 x 4 house."

In addition to Westernizing houses, the Japanese are making other changes to live more comfortably. For example, air conditioning equipment is being installed in new houses. This in turn requires more energy efficient doors and windows.

Despite these technical changes, the strongest reasons for using wooden doors and windows, especially imported ones, appear to be more related to fashion than to practicality.

In many instances low thermal conductivity and energy efficiency are less important than the desire for home owners to add more luxury to already expensive houses. This in turn gives housing manufacturers a good reason to increase the price of houses.

Description of Existing Products

Types of Doors

There are two types of doors: sliding -- found mainly in traditional housing but also in patio-type doors -- and swing doors. Doors are also divided into two application areas: entrance doors and interior doors.

Entrance doors require fire resistance properties in metropolitan areas and in multi-unit residential buildings, although there are significant exceptions (see Chapter 7).

Materials

At present, aluminum is the most common material used, followed by steel and wood.

There are several fabrication methods for metal doors, and because of the need for energy efficiency in house construction, metal doors with thermal insulation properties are being developed in Japan.

Wood doors are divided into two categories in terms of fabrication methods: solid wooden doors and flash doors. There are several methods of building flash doors; some, for example, use a paper honeycomb structure as a core material.

Functional Types of Windows

In terms of functional types, the most popular are sliding windows. Though bay and bow windows are becoming popular, their use is still limited -- about 7 per cent of prefabricated and 2 x 4 houses built since 1986.

For imported windows, guillotine (double hung) type windows are popular in terms of numbers sold. Another popular window type is the fixed window.

Although all kinds of "exotic" window systems are being imported and developed by small companies, for most Japanese there are only two window systems: sliding and swing.

Materials

The most popular window system in Japan is the aluminum sliding window. It was used in nearly all detached residential houses. However, steel, wood and plastics are increasingly being used alone or in combination with other materials.

Wood and especially plastics are often used with aluminum to reduce thermal conductivity in cold areas. In Hokkaido, the northern island of Japan, aluminum/vinyl combination windows are used because heat conductance is low.

Modern-style wooden windows are new in Japan, though before aluminum sashes became popular, wooden windows were the only choice. Compared with today's quality and performance, these wooden windows were far below the standard.

There is considerable steel window production in Japan but they are used almost exclusivly for commercial buildings.

There are no vinyl clad wood frame windows manufactured in Japan, but such windows are imported and sell well. The leading importer is Andersen of the United States.

However, some companies have recently begun to develop wood frame windows covered with aluminum on the exterior face.

Sizing

Although there are several regional variations, door sizes are fairly standardized. Door and window sizes are based on the old Japanese measurement system: sun (pronounced "soon") = 3.03 cm; shaku = 10 sun; ken = 6 shaku. Standard height is approximately 6 shaku and standard width is 2 to 3 shaku.

The number of shaku varies by region, but in practice in Tokyo, the standard height of the opening for modern style doors is 1 830 mm. (See Chapter 7 for more details on standard sizes.)

Market Scale

Housing Starts and Renovation

As shown in Table 1, new housing starts in 1982 were 1.15 million. This figure remained fairly constant until 1987 when, boosted by government policy, housing starts reached 1.67 million units, and rose again slightly to 1.68 million units in 1988.

Table 1
New Housing Starts in Japan
1982 - 1988
('000 units)

Year	Total	Wooden Houses
1982	1146	667
1983	1136	591
1984	1187	594
1985	1236	592
1986	1365	634
1987	1674	742
1988	1685	697

Source: Ministry of Construction.

In 1987, the Japanese government decided to change the economy from an export-orientated to a domestic-oriented structure, to reduce trade friction with the U.S. and other main export partners.

More than 60 per cent of total housing starts are highrise residential buildings and the rest are wooden houses, mostly wooden detached units. These may, however, be either single or multi-family units.

In highrise residential buildings, the use of wooden entrance doors and windows is prohibited due to strict enforcement of fire regulations and building codes. The materials for doors and windows are thus limited to aluminum and steel.

Though wooden houses account for only about 40 per cent of total housing starts, this is the market for wooden entrance doors and windows. The two key sub-sectors for wooden houses are prefabricated and the 2 x 4 system.

Prefabricated houses are well established and now account for 12 to 14 per cent of total housing starts, as indicated in Table 2. Nearly 220 000 were built in 1988 of which about 27 per cent were made of wood. Of the remainder, 63 per cent used a steel structure and 10 per cent were concrete.

Table 2
Non-Traditional Housing Construction
1982 - 1988
('000 units)

Year	Prefabricated	2 x 4
1982	138.5	16.2
1983	146.7	17.2
1984	162.8	20.2
1985	177.8	24.1
1986	203.4	31.7
1987	247.5	40.1
1988 (est)	218.7	41.9

Source: Ministry of Construction and K. F. International, Inc.

The 2 x 4 system is still new in the Japanese market but is growing steadily since the concept has gradually been accepted as good technology and an attractive alternative to wooden custom made houses. In addition 2 x 4 houses give a complete Western design and the "look" that many consumers dreamed about in their youth while watching American movies and TV programs.

Besides new housing starts, there is significant home renovation activity. This is not included in new housing starts statistics but it does represent an additional market for doors and windows.

As shown in Table 3, some 164 000 units were renovated in 1987, although this was a significant decline from 1982. Approximately 80 per cent of those units are wooden houses.

Table 3
Home Renovation
1982 - 1988
('000 units)

Year	Renovations
1982	199
1983	194
1984	180
1985	173
1986	171
1987	164

Source: Ministry of Construction.

Market Size in Terms of Units

Published statistics on the door and window market are limited to total tonnage and value. Therefore, it is necessary to estimate numbers of units directly.

There are several ways to estimate the door and window market in Japan. One way is to use the number of openings per square metre of floor space. These statistics are published in the annual survey done by Nippon Sash Association. However, as the survey is limited to newly built houses, it does not necessarily reflect the overall market which includes apartments.

In order to estimate the number of units of uptake in the doors and windows market, it is necessary to develop a number of hypotheses:

- the market for entrance doors is essentially equal to the number of housing starts;
- nearly all houses have a back door, but most apartments do not;
- most Japanese apartments have at least one large sliding window similar to a patio door, and some newer apartments have back doors from the kitchen to the balcony;
- the average number of interior doors per house and apartment is 5.5 excluding bathroom and toilet doors;
- the total production of aluminum windows serves as a base to estimate the overall window market; and
- all remodeling / renovation is treated as occurring in single family homes.

Door Market

Estimates on the number of entrance, back and interior partition doors appear in Table 4. The total for all three door types was 12.9 million in 1988. This does not include bathroom and toilet area doors, which have increased in demand by 370 000 to 400 000 units.

Table 4
Market for Doors in Japan
1982 - 1988
('000 units)

Year	Entrance	Back	Interior
1982	1 350	940	7 400
1983	1 330	830	7 300
1984	1 370	800	7 500
1985	1 410	780	7 800
1986	1 540	790	8 500
1987	1 840	870	10 100
1988	1 850	850	10 150

Source: K. F. International, Inc.

In terms of types of doors, all apartment entrance doors and 90 per cent of back doors are swing doors. But in houses, 40 per cent of entrance doors are sliding doors which are especially popular in traditional Japanese houses in suburban and rural areas.

Table 5 shows changes in the use of door type in new houses as surveyed by the Japan Sash Association. The Association also estimates that approximately 20 per cent of interior doors are the traditional Japanese sliding type. Use of Western-type sliding doors is negligible.

Table 5
Swing Doors vs Sliding Doors
1982 - 1988 (%)

Year	Entrance		Back Door	
	Swing	Sliding	Swing	Sliding
1982	42.0	58.0	91.2	8.8
1983	43.3	56.7	90.1	9.9
1984	45.3	54.7	87.0	13.0
1985	50.4	49.6	87.3	12.7
1986	54.0	46.0	88.6	11.4
1987	57.6	42.0	89.3	10.7
1988	60.7	39.3	90.5	9.5

Source: Japan Sash Association.

Changes in the use of the various materials in entrance and back doors is shown in Table 6.

Table 6
Type of Material Used in Doors
1982 - 1988 (%)

Year	Entrance			Back Door		
	Al	St	Wd	Al	St	Wd
1982	66.5	10.2	23.3	88.8	8.8	2.4
1983	70.8	13.0	16.3	83.1	14.4	2.5
1984	83.6	3.6	12.8	93.9	5.1	1.0
1985	86.7	3.0	10.3	94.6	4.1	1.3
1986	88.5	3.2	8.4	95.0	4.5	0.5
1987	91.7	1.7	6.6	94.7	4.7	0.6
1988	91.7	2.5	5.9	96.8	2.7	0.5

Al - Aluminum; St - Steel; Wd - Wood

Source: Japan Sash Association.

Aluminum is the most widely used material for entrance and back doors and the use of wood is very limited. Aluminum was used in 88.8 per cent of back doors in 1982 and 96.8 per cent in 1988. The corresponding figures for wooden back doors was 2.4 per cent in 1982 and 0.5 per cent in 1988.

The use of aluminum in entrance doors has increased from 66 per cent of the market in 1982 to 92 per cent in 1988. In contrast, the use of wooden doors dropped from 23 per cent to 6 per cent in the same period.

Solid wooden doors are used increasingly as living room doors and are estimated to account for 5 per cent of all interior doors. The other types of interior doors are wooden or metal.

Window Market

The estimated market size is well in excess of 33 million units. The estimates in Table 7 are based on an average number of 18 windows per dwelling unit, and represent a first, and probably conservative, approximation. More detailed estimates are presented in Chapter 3.

Table 7
Market for Windows in Japan
1982 - 1988
('000 units)

Year	Windows
1982	24 200
1983	23 900
1984	24 600
1985	25 400
1986	27 600
1987	33 200
1988	33 200

Source: K. F. International, Inc.

The most common sliding windows accounted for about 62 per cent of the total window market in 1987. At one time, sliding type windows accounted for nearly 80 per cent of the window market but the trend now is towards using special types of windows. This development reflects changing consumer tastes. Table 8 presents the distribution of demand for different types of windows.

Table 8
Demand for Other Than Sliding Windows
1982 - 1987 (%)

Year	Double	Bay/Bow	Special
1982	12.3	3.3	6.0
1983	13.9	3.8	7.4
1984	14.7	4.6	9.4
1985	13.9	5.7	11.6
1986	14.5	6.9	12.4
1987	13.2	7.5	17.5

Source: Japan Sash Association.

Double windows (not necessarily double glazing but often combined with double glazing) are mainly used in the northern part of Japan, especially in Hokkaido, where thermal insulation is a must.

The distribution of windows by type of material appears in Table 9. Largely because of superior wind and water tightness, aluminum windows had captured nearly 100 per cent of the market; but their use has been gradually decreasing. In 1982 aluminum windows were installed in 99 per cent of housing starts but by 1988, use had declined to 96 per cent.

Table 9
Window Market by Type of Material
1983 - 1988 (%)

Year	Aluminum	PVC	Wood
1982	99.4	0.6	-
1983	98.4	1.6	-
1984	97.9	2.1	-
1985	97.3	2.7	-
1986	96.5	3.5	0.1
1987	96.5	3.2	0.3
1988	96.0	4.5	0.5

Source: K. F. International, Inc.

The replacement market is estimated at about 20 per cent of the total market.

3 TRENDS IN SUPPLY

Domestic Production

This Chapter presents data on Japanese production by type of windows and doors for the period 1982 - 1988. Because of the scarcity of official statistics, most of this data was estimated by the consultants on the basis of their investigations.

Aluminum Windows

The production of aluminum sashes follows the pattern of the new housing starts with a slight time lag. See Table 10 for production figures.

Table 10
Aluminum Sash Production
1982-1988

Year	Production (tonnes)	Shipment (tonnes)	Value (¥ million)	Unit Value (¥/tonne)
1982	410 457	413 656	560 207	1.35
1983	425 755	422 391	583 587	1.38
1984	392 414	393 646	563 534	1.43
1985	369 650	381 211	570 624	1.50
1986	380 530	394 748	588 693	1.49
1987	413 070	432 933	637 814	1.47
1988 (est)	442 413	452 623	679 392	1.50

Source: Ministry of International Trade and Industry; K. F. International, Inc.

Total aluminum sash production in 1982 was slightly over 410 000 metric tons. It increased a little in 1983, but in subsequent years, production decreased and did not recover until 1987. Production for 1988 is estimated at just over 442 000 metric tons.

As indicated in Table 11, in 1988 production of aluminum sashes for wooden houses was estimated at 258 000 metric tons for a value of ¥ 300 billion.

Table 11
Aluminum Sashes for Wooden Houses
1982-1988

Year	Production (tonnes)	Shipment (tonnes)	Value (¥ million)
1982	260 420	263 184	292 208
1983	276 901	271 645	306 168
1984	242 510	241 106	290 246
1985	220 661	272 126	253 865
1986	227 470	229 279	254 191
1987	243 958	225 905	251 584
1988 (est)	257 947	257 006	296 875

Source: Ministry of International Trade and Industry; K. F. International, Inc.

Total production of aluminum windows in 1982 was estimated to be 38 million units. About 24 million of these were designed for wooden houses.

Until 1986, there were no available statistics on the number of aluminum windows; data on numbers of aluminum windows designed for wooden houses is now available.

Table 12 was compiled on the basis of a factor for average weight/number of units for aluminum sashes. The difference between aluminum sashes designed for wooden houses and those designed for others (e.g. highrise buildings) is the size of windows, which is described in the relevant standards. Production in 1988 was 41 million units of which 24 million were for wooden houses.

Table 12
Aluminum Sash Production
1982-1988
(million units)

Year	Total	Wooden Houses
1982	37.9	24.0
1983	39.3	25.6
1984	36.2	22.4
1985	34.1	20.4
1986	35.1	21.5 (actual)
1987	38.1	22.6 (actual)
1988 (est)	40.9	23.8

Source: Ministry of International Trade and Industry; K. F. International, Inc.

According to the Aluminum Sash Association, the member manufacturers have decided to put more stress on production of non-sash products like aluminum fences and other exterior products. They believe that the current high level of demand for aluminum sashes in Japan will not continue indefinitely and they do not want to become too dependent on this segment.

Steel Windows

Official statistics for steel window production in terms of tonnage are presented in Table 13. Steel window production is almost exclusively for commercial buildings, and will never play a significant role in the residential market.

Table 13
Steel Sash Production
1982-1988

Year	Production (tonnes)	Shipment (tonnes)	Value (¥ million)
1982	17 992	19 577	11 884
1983	15 964	17 377	10 793
1984	21 172	22 378	15 997
1985	18 525	22 144	21 366
1986	18 257	21 624	21 699
1987	16 117	19 312	21 589
1988 (est)	16 234	19 490	18 680

Source: Ministry of International Trade and Industry.

Plastic Windows

Plastic windows are mainly used in cold weather areas like Hokkaido. Based on the market share estimates which appear in Table 9, the production of plastic windows is estimated at 1.5 million units for 1988. Estimates since 1982 are given in Table 14.

Table 14
Estimated Production of Plastic Windows
1982 - 1988
('000 units)

Year	Number
1982	150
1983	380
1984	520
1985	680
1986	970
1987	1 060
1988	1 500

Source: K. F. International, Inc.

Wooden Windows

Production of wooden windows in Japan is fairly new and at present the volume is almost negligible. However, several manufacturers. especially in Hokkaido, have recently started to produce them and the next step will be to acquire the know-how to begin large-scale fabrication.

Current production in Japan is estimated at between 1 000 to 1 500 windows a month. However, the production capacity for 1988 was estimated to be equivalent to 25 000 units, and involved about 15 manufacturers who are all members of the Hokkaido Wooden Sash Association.

Steel and Aluminum Doors

Statistics are only available for the production of aluminum and steel doors, by weight. These are presented in Table 15 and Table 16 respectively. The majority of aluminum doors are used in detached houses and the majority of steel doors are used in residential and commercial highrise buildings.

Table 15
Production of Aluminum Doors
1982-1988

Year	Production (tonnes)	Shipment (tonnes)	Value (¥ million)
1982	30 442	31 399	58 856
1983	30 673	31 621	59 206
1984	38 942	40 052	58 953
1985	38 239	39 634	69 394
1986	39 580	41 663	71 258
1987	41 051	43 545	74 860
1988 (est)	43 661	45 083	80 689

Source: Ministry of International Trade and Industry.

Table 16
Production of Steel Doors
1982 - 1988

Year	Production (tonnes)	Shipment (tonnes)	Value (¥ million)
1982	71 779	79 392	43 427
1983	67 389	74 719	40 527
1984	76 207	80 169	45 552
1985	74 375	88 169	65 888
1986	71 955	85 138	67 135
1987	78 719	93 002	75 120
1988 (est)	84 034	101 063	66 170

Source: Ministry of International Trade and Industry.

Wooden Doors

Estimates for wooden door production are set out in Table 17. The number of wooden entrance doors dropped from 600 000 in 1982 to 220 000 in 1988. As shown in Table 6, this drop has been largely in favour of aluminum doors.

Table 17
Apparent Demand for Wooden Entrance Doors
1982 - 1988

Shipments + Imports
('000 units)

Year	Number
1982	600
1983	420
1984	360
1985	300
1986	260
1987	340
1988	220

Source: K. F. International, Inc.

Flash doors and solid wood doors are used in approximately equal proportions. It is also estimated that imports increased from about 1 per cent in 1985 to 5 per cent in 1988.

Manufacturers

Aluminum Doors and Widows

It is estimated that there are about 160 aluminum door and window manufacturers in Japan. However, the market is dominated by 6 major manufacturers -- Toyo Sash, YKK, Shin Nikkei, Sankyo Aluminum, Fuji Sash, and Tateyama Aluminum -- who control 90 per cent of the market.

Toyo Sash was established in 1949 and is the latest entry to the aluminum sash industry. Their annual sales are about ¥ 300 billion (C$3 billion); 94 per cent of their sales are doors and windows.

YKK is the largest manufacturer of fasteners. As it is a private company, financial data is not available. The company's annual sales are estimated at ¥ 505 billion, out of which ¥ 350 billion is aluminum building materials including doors and windows.

Shin Nekkei is a subsidiary of Nippon Light Metal, the largest aluminum producer in Japan. Annual sales are ¥ 150 billion of which 43 per cent is aluminum building materials. They also produce plastic sashes for the Hokkaido market and sashes from unique combinations of materials like urethane molded aluminum sashes, aluminum/plastic co-extruded sashes, and aluminum/wood sashes.

Sankyo Aluminum is the third-largest producer of aluminum sashes and the top producer of aluminum sashes for commercial buildings. Their annual sales total ¥ 220 billion.

Fuji Sash was established in 1969 and is a leading producer of aluminum curtain wall for highrise buildings. Total annual sales are about ¥ 160 billion.

Tateyama Aluminum produces aluminum products including aluminum windows and doors. Annual sales are ¥ 105 billion.

Steel Doors

The preceding aluminum manufacturers also produce steel doors, but there are six small- to medium-sized companies that have the major market share. They are Sanwa Shutter, Tanaka Sash, Tejima Kogyo, Nippon Kentetsu, Toyo Kohan and Bunka Shutter. There are also another 700 to 800 steel door manufacturers in Japan who produce doors for these major manufacturers under subcontract.

Wooden Doors

The major manufacturers of wooden doors are Yamaha, Aika, Nonaka, Abe Kogyo, Yuasa, Noda Plywood, and Matsushita.

Abe Kogyo is not a true manufacturer but the company contracts small independent artisans -- "tateguya" -- and door manufacturers to make doors to their specifications. These manufacturers also produce wooden flash doors made of wood panels with or without core materials.

Three other major manufacturers -- Daiken, Matsushita, and Dantani -- specialize in flash doors.

In addition, two producers of solid doors, Tiffany and Mio Tsusho, do not manufacture doors in Japan but at joint-venture factories in the Philippines. However, although major portions of the door production processes are done in the Philippines, final assembly and finishing is done in Japan since Japanese workers pay closer attention to finishing details.

Wooden Windows

There are several wooden window manufacturers in Japan. All are members of either the Hokkaido Wooden Windows Association and/or the Wooden Window Sash Commitee.

Vinyl Windows

There are about 10 plastic window manufacturers in Japan. The largest is Tokuyama Soda; others include YKK, Toyo Sash, Kaneka, Daishin Kogyo, and Sekisui.

Market Shares

Auminum Doors and Windows

The market shares of aluminum sash manufacturers are presented in Table 18. While there have been minor changes in the relative market share ranking, the top two companies have controlled nearly 60 per cent of the market and Sankyo Aluminum and Shin Nikkei have held 30 per cent. Fuji has consistently had a share of 7 to 8 per cent.

Table 18
Market Shares of Aluminum Sash Manufacturers in 1988 (%)

Toyo Sash	30
YKK	28
Sankyo Aluminum	16
Shin Nikkei	14
Fuji	8
Tateyama	2
Others	2

Source: K. F. International, Inc.

Until recently YKK was the market leader, but two to three years ago, Toyo Sash took over the top position by acquiring competing companies.

Steel Doors and Windows

The relative market shares for steel windows are essentially the same as for aluminum doors and windows.

The estimated market shares for the leading steel door manufacturers are presented in Table 19. Sanwa Shutter and Tanaka Sash dominate the market with approximatly 40 per cent and 20 per cent respectively.

Table 19
Market Share for Steel Doors (%)

Sanwa Shutter	30 - 40
Tanaka Sash	10 - 20
Tejima Kogyo	5 - 10
Nippon Kentetsu	5

Source: K. F. International, Inc.

Wooden Doors and Windows

Yamaha is the largest manufacturer of wooden doors, both solid and flash, with a 30 per cent market share. Other top companies are Aika (20 per cent), Nonaka (15 per cent) and Abe Kogyo (10 per cent).

The wooden window industry is still in its early stages of development and market position is not yet a significant factor.

Vinyl Windows

Vinyl window production represents only about 1 per cent of that for aluminum windows. They are frequently found as inner windows of a double window system and are mainly used in the Hokkaido area.

Estimated market share is presented in Table 20. The market is largely controlled by Tokuyama Sash (50 per cent) and YKK (30 per cent).

Table 20
Market Share for Vinyl Windows (%)

Tokuyama Sash	40 - 50
YKK	20 - 30
Toyo Sash	10
Kaneka	5

Source: K.F. International, Inc.

New Developments

Two organizations are involved in technical development and the establishment of standards for wooden windows in Japan. They are:

- Hokkaido Wooden Windows Association - a local association of manufacturers, attempting to develop wooden windows which will effectively withstand cold weather in Hokkaido.

- Wooden Window Sash Committee - an organization authorized by the Japan Housing and Wooden Material Technology Center to establish technical and testing standards for wooden windows. They intend to establish new Japan Institute of Standards (JIS) for wooden windows in 1990.

Yamaha and Abe Kogyo have developed special coating methods to withstand wet weather conditions. They also offer re-coating services. Some importers refinish (mainly repainting) imported wooden doors in Japan.

Provision for these types of services appear to be important to gain acceptance in the Japanese market.

4 TRADE STATUS

Import trade statistics for doors and windows are not listed separately until 1988. These statistics and those for other building materials are presented in Table 21. Total imports in 1988 were nearly 5 million metric tons for a value of ¥ 3 billion.

Table 21
Imports of Doors, Windows and Other Building Materials
1982-1987

Year	Quantity (tonnes)	Value (¥ million)
1982	4 337	2 693
1983	3 603	2 208
1984	3 224	2 202
1985	2 337	1 951
1986	3 464	2 045
1987	4 971	3 097

Source: Ministry of Finance; K. F. International, Inc.

Since 1988, wooden door and window imports have been listed separately. The estimated imports (including door frames) in 1988 appear in Table 22.

Table 22
Imports of Doors and Windows
1988

Type	Quantity (tonnes)	Value (¥ million)
Wooden windows	2 981	1 918
Wooden doors	3 432	2 158
Steel doors and windows	310	308
Aluminum doors and windows	1 518	1 124
Plastic doors and windows	110	98

Source: Ministry of Finance; K. F. International Inc.

The importation of steel doors and windows is almost negligible. Most importation of aluminum doors and windows is by Japanese sash manufacturers from their overseas factories and subcontractors.

The major inernational suppliers of doors and windows in 1988 appear in Table 23. The percentage share is calculated based on weight.

Table 23
Source of Imports by Product
1988

Type	Country	%
Wooden windows	U.S.A.	53
	Denmark	29
	Sweden	5
	West Germany	4
	Canada	3
	Others	6
Wooden doors	U.S.A.	26
	Taiwan	16
	Sweden	15
	Philippines	11
	Thailand	9
	Others	23
Steel doors and windows	U.S.A.	48
	Korea	32
	Norway	8
	Others	12
Aluminum doors and windows	Thailand	25
	Korea	22
	China	8
	U.S.A.	12
	Others	23
Plastic doors and windows	Taiwan	52
	West Germany	20
	U.S.A.	13
	Others	15

Source: Ministry of Finance, K. F. International, Inc.

Estimates of imports by type of window are presented in Table 24. Double hung windows account for 50 per cent, but bay and bow windows (25 per cent each) are becoming very popular as they offer better space utilization for Japanese houses.

Table 24
Imports by Type of Window (%)

Double hung	50
Bay/bow	25
Others	25

There are three importers of Andersen windows: Sumisho Metals, Santa Trading, and ABC Kaihatsu. All three also distribute and maintain inventory.

Many house builders import doors and windows on an occasional basis for their own projects.

Major importers of wooden windows appear in Table 25. From a forecast total of 190 000 units for 1989, Santa Tsusho and Sumisho Metalex are each expected to have a 40 per cent market share. ABC Kaihatsu will account for about 8 per cent.

Table 25
Wooden Window Imports by Leading Importers

	1988	1989
Santa Tsusho	66 000	80 000
Sumisho Metalex	66 000	80 000
ABC Kaihatsu	12 000	15 000
Others	12 000	15 000
Total	156 000	190 000

Source: K. F. International, Inc. estimates.

Most of the imports are from Andersen. The market share of the leading brands is presented in Table 26 and shows that Andersen dominates with 95 per cent.

Table 26
Market Share of Imported Windows by Brand (%)

Andersen	95
Marvin	2
Others	3

Source: K. F. International, Inc. estimates.

5 TRENDS IN DEMAND

The major factors determining demand for windows and doors are:

. changing consumer tastes;
. exchange rates; and
. housing starts (including remodeling).

The largest potential market for wooden doors and windows has been single family houses. In recent years, however, the share of such houses in the total housing starts has been decreasing.

Despite this decline, the change in consumer tastes has increased the need for wooden products for houses. This is especially true for wooden windows and wooden interior doors.

Japanese consumers appreciate natural things like wood. A "typical" dream house for many Japanese is a traditional wooden house wholly made of Japanese cypress wood. Owing to its unavailability and price, however, they will settle for other types and qualities of wood.

Exchange rate changes have reduced the prices of imported goods to an affordable level for many middle class consumers.

Purchasing Criteria

Although price is important for consumers, it alone is not a determining factor. Once the price is at an affordable level, colour and design are the major purchasing criteria.

One highly important factor is "total design co-ordination" with interior decoration.

The most preferred colour for doors is dark reddish brown like rosewood, then oak colour, followed by light brown and white. For wooden windows, white is preferred on the exterior.

Japanese consumers are very concerned abuot workmanship. The quality of the product is the first thing that is checked in imported products.

Although consumers are gradually playing a larger role in purchasing decisions, architects still tend to control the decision-making process.

Popular products

Andersen windows are by far the best selling imported windows in Japan. The reason, according to industry experts, is the thin grid line of their windows.

In terms of type, double hung windows are the best sellers but bay/bow may be close to double hung in terms of installation rate. Fixed windows follow.

The best selling Andersen window sizes are (numbers are Andersen model numbers):

- double hung: approximatly 60 per cent are 24310 (H: 1251mm x W: 753 mm); next best is 2442 (1353 mm x 753 mm);
- bow window C45 (1559 mm x 2486 mm); and
- bay 45-C25 (1559 mm x 2230 mm).

In terms of price, 24310 is ¥ 68 000 ; 2442 is ¥ 72 000; C45 is ¥ 429 000 ; and 45-C25 is ¥ 445 000.

Because consumers in Japan are willing to pay high prices for quality products, Japanese-made solid wood entrance doors in the price range ¥100 000 to ¥ 500 000 are selling well. The price range for solid wood interior doors is from ¥ 50 000 to ¥ 100 000.

Yamaha and Abe Kogyo are selling solid wood doors successfully because of their special coating method and five-year re-coating service.

Tiffany manufactures solid wood doors of rosewood, Chinese quince and ebony. They claim that wooden doors imported from northern countries often warp. On the other hand, they suggest that because they are using hardwood grown in hot humid regions, their doors have no problems.

6 DISTRIBUTION

Distribution channels

The traditional distribution method in Japan has been to develop a wide network that includes wholesalers who buy and stock the manufacturer's products. Unfortunately, this is extremely difficult to do, particularly for an importer.

On the other hand, because of the complex nature of distribution, it is not unusual to find that Japanese manufacturers will handle imported products as well as their own provided the imports do not directly compete with their own lines. In the door and window market there are a number of other possible channels for distribution.

There are several types of companies in the industry linking manufacturers and importers to the end users. They are:

- wholesalers of building materials;
- retail shops for building materials;
- "tateguya";
- 2 x 4 house manufacturers;
- prefabricated house manufacturers;
- architects; and
- carpenters.

Wholesalers are sometimes divided into several levels according to the size of operation. The primary wholesalers have smaller wholesalers under them, and so on.

A "tateguya" was originally a carpenter who specialized in making and installing doors and windows in Japanese houses. As a distributor, the "tateguya" acts as wholesaler/distributor.

There are many "tateguya" in Japan, mostly in one-person operations. However, some "tateguya" have become manufacturers of wooden doors and windows. One such company is Ohara Sanwa.

Distribution channels vary from company to company, but the three principal patterns of distribution are:

- Kenzai (Building materials distribution)

  About 80 per cent of doors and windows are distributed through this channel. In particular, virtually all aluminum windows are distributed this way.

- This is the main method of distribution for Yamaha, Matsushita, Daiken and Dantani. Manufacturers sell their products to wholesalers of building materials and the wholesalers in turn sell their stocks to retailers or smaller wholesalers.

- "Tateguya"

  This method is used for about 15 per cent of the market. It is the distribution channel for Abe Kogyo. Instead of wholesalers, Abe Kogyo sells their doors and windows to "tateguya" who act as distributors and sell to carpenters and architects.

- Direct to architects/contractors/carpenters

  This is the distribution channel mainly used by importers such as Andersen as well as by small manufacturers who sometimes act as "tateguya."

Business Practices

The most important factors in Japanese business practice are the long-term view and the building of a good long-term relationship. Thus, Japanese companies tend to think that reliability of a supplier is more important than how good the products are, and certainly more important than price.

Pricing Mechanism

For domestic manufacturers, larger companies set prices to ensure profit at each stage of distribution. The final price to end users will be about 3.5 times higher than the manufacturing costs. Smaller manufacturers have fewer distribution steps and set prices at 1.8 to 2.5 times the cost.

Distributors and dealers make about 15 to 20 per cent profit. Architects and contractors make about 12 per cent on mark-ups to the sales price.

Pricing for imports is different from importer to importer because their functions are different. Some import only on request by customers and buy directly from overseas distributors or retailers. Thus their import price is fairly high compared with those of authorised importers who get export discounts from overseas manufacturers.

Some importers buy large lots and keep stocks for distribution and sales. Other importers refinish imported doors in Japan.

Although there are many factors affecting price determination, they can be determined practically by one of the following:

- For new products: convert list price to yen and multiply by 3.

  For instance, if a product sells at C$1000 in Canada, then the Japanese list price would be ¥ 300 000 ($1000 x ¥100 / $1.00 x 3)

  If the importer has a distributor, the selling price will be set at 45 per cent of the list price.

- Where the imported product is compatible with, but cheaper than, the domestic product: multiply yen price by 1.5 to get the price for the import.

7 REGULATIONS AND STANDARDS

Approvals and Licences

There are no specific regulations prohibiting the import and sale of doors and windows in Japan. The only possible limiting factors are building and fire regulation codes.

These codes prohibit the use of wooden entrance doors and windows in highrise apartments and in houses located in Class 1 and Class 2 fire protection areas which cover most metropolitan areas.

However the largest markets for wooden entrance doors and windows is for single-family dwellings in those metropolitan fire protection areas in spite of official prohibition. In practice such doors are accepted if they are at least 5 m away from neighbouring houses or the street. In addition, it is widely accepted in the house-construction industry that actual fire resistance properties of wooden doors and windows are not necessarily worse than those of aluminum and steel products. Thus, the regulations are not strictly enforced for private houses, providing that documentation is in order.

Further, standards for fire resistance properties of wooden doors and windows are currently under review. They are being investigated by the Wooden Window Sash Committee sponsored indirectly by the Ministry of Agriculture, Forestry and Fisheries. The committee expects that further use of wooden doors and windows will be permitted in the near future.

Japanese Industrial Standards

There are several Japan Institute of Standards (JIS) standards for doors and windows. Aluminum doors and windows need JIS certification, but other standards are guidelines and not complusory. The JIS standards are:

- Standards for aluminum and steel door sets for entrance of dwellings (JIS A 4712);
- Standards for aluminum and steel doors (JIS A 4702);
- Standards for wooden sliding glass doors (JIS A 4602);
- Standards for wooden flash doors (JIS A 4601);
- Standards for aluminum and steel windows (JIS A 4706); and
- Standards for PVC windows for interior installed (JIS A 4714).

All these standards are available in English, with the exception of the standards for PVC windows. Information on the procedures to be followed for JIS certification can be obtained from the Japan Standards Association.

For aluminum and steel door sets, doors and windows and PVC windows, all materials of steel, aluminum and PVC can be used. These materials are defined by separate JIS standards which include glass, board, paper cores, rock wool, etc.

The minimum thickness of material is not defined except for steel plate used for frames. Bottom frames must use steel plate with a minimum thickness of 2 mm or stainless steel with a 1.5 mm minimum thickness. Other frames must use steel plate of 1.6 mm or thicker, or stainless steel of 1.2 mm or thicker.

For other materials besides stainless or specially treated steel, rust protection coating or anodizing as specified in JIS H 8602 is required. Anodizing film must be thicker than 7 micron metres or more.

Frames must be welded throughout or, the part where two frames connect must be filled to ensure water proofing. Doors, door sets and windows should be free of warp.

Doors, including door sets and windows, are divided into several classes according to performance differences in wind resistance, air infiltration, water tightness, noise reduction, and thermal insulation.

Under the several air pressure levels as defined by standard testing procedures, both doors (including door sets) and windows should not be broken during wind resistance standards tests. Doors shall not warp more than 1/70 of the longitudinal length. Windows shall not make relative separation of 15 mm or more under the testing. If windows use plate glass of 6.8 mm or thicker the maximum warping of frames allowed shall be less than 1/150 lengthwise.

The relationship between testing pressure and class is set out in Table 27. For door sets, classes available are 80 to 160, for doors from 80 to 280, and windows 80 to 360.

Table 27
Testing Pressures and Performance Class

Class	Pressure (kgf/m^2)	Application
80	80	One story houses
120	120	One to two story houses
160	160	One to three story wooden houses
200	200	Apartments of one to six stories
240	240	Apartments of one to twelve stories
280	280	Highrise apartments
360	360	Highrise apartments

Source: Japanese Standards Institute; K. F. International, Inc.

According to the standards, air infiltration testing, doors and windows are divided into several classes. In the tests, initial pressure of $25kgf/m^2$ is applied for one minute and air infiltration is tested at four pressure differences ($1kgf/m^2$, 3, 5 and 10). Air infiltration should satisfy the infiltration curve as defined in JIS A 1516. Class 120 must have air infiltration of $120m^3/h.m^2$ and less.

Class and application relationships are set out in Table 28. Classes available for door sets are from 8 to 120, doors from 2 to 120 and windows from 2 to 120.

Table 28
Air Infiltration Classes

Class	Application
120	Parts requiring high air infiltration
30	Houses
8	Houses requiring quietness and thermal insulation
2	Noise reduction and thermal insulation buildings

Source: Japanese Standards Institute; K. F. International, Inc.

In the JIS water tightness test, water corresponding to a 240 mm/hr precipitation rate is sprayed and pulsing air pressure is added to simulate typhoons. Water should

not permeate through frames and into the room. Classes are defined by water tightness at the different pressure levels.

Class and application relationships are set out in Table 29. Classes available for door sets are from 10 to 25, for doors from 10 to 35, and for windows from 10 to 50.

Table 29
Classes for Water Tightness

Class	Application
10	Houses in city areas
15	Houses and apartments in city areas
25	Highrise apartments and buildings in windy areas

Source: Japanese Standards Institute; K. F. International, Inc.

Noise reduction is tested and measured to define classes and each class must comply with a noise reduction curve. Class 25 reduces noise by 25dB. Classes defined in JIS are 25, 30, 35 and 40. This is for doors and windows only.

Thermal insulation is expressed in m^2.h. C/kcal. The classes for doors and windows are defined in Table 30. Classes available for doors and windows are from 0.25 to 0.40; for PVC interior windows in double window systems the classes are from 0.33 to 0.50.

Table 30
Thermal Insulation Classes

Class	m^2.h.C/kcal	Application
0.25	0.25 and more	
0.29	0.29 and more	Northern Honshu
0.33	0.33 and more	Hokkaido
0.40	0.40 and more	Hokkaido
0.50	0.50 and more	for PVC interior windows

Source: Japanese Standards Institute, K. F. International, Inc.

Standard sizes for door sets, doors and windows are presented in Tables 31, 32 and 33.

Table 31
Standard Sizes for Door Sets (mm)

Swing Door Sets

Height:	1850, 1900, 2000, 2100, 2250, 2300, 2400, 2450, 2500, 2600, 2700
Width:	850, 900, 950, 1300, 1350, 1400, 1550, 1750, 2550

Sliding Door Sets

Height:	1850, 1900, 2100, 2250, 2300, 2350
Width:	1300, 1400, 1750, 1950, 2650, 2900, 3550, 3850

Source: Japanese Standards Institute; K. F. International, Inc.

Table 32
Standard Sizes for Doors (mm)

Swing doors for steel reinforced buildings

Height: 1750, 1850, 1900, 2000, 2100

Width: 830, 900, 920, 950, 1700, 1800

Swing doors for wooden houses

Height: 1820, 1850, 2210, 2240, 2270, 2300

Width: 806, 850, 1264, 1715

Sliding doors for steel reinforced buildings

Height: 1650, 1900, 1950, 2050

Width: 900, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2100

Sliding doors for wooden houses

Height: 1760, 1790, 1850, 2200, 2300

Width: 1700, 1900, 2610, 2855, 3520, 3810

Source: Japanese Standards Institute; K. F. International, Inc.

Table 33
Standard Sizes for Windows (mm)

Sliding and swing windows

Height: 400, 600, 800, 1000, 1200, 1600, 2000, 2250, 2400, 2500, 2700, 3000, 3200

Width: 400, 600, 800, 1000, 1200, 1600, 1800, 2000, 2400, 3200, 4000

Sliding windows for reinforced concrete buildings

Height: 450, 500, 550, 750, 1050, 1250, 1350, 1450, 1650, 1900, 1950, 2050

Width: 900, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2100

Sliding windows for wooden houses

Height: 365, 455, 605, 735, 850, 910, 1060, 1210, 1365, 1760, 1790, 1850, 2200, 2300

Width: 790, 840, 1245, 1370, 1700, 1900, 2610, 2855, 3520, 3810

Swing windows

Height: 430, 500, 560, 750, 850, 910, 960, 1360

Width: 430, 510, 560, 590, 700, 730, 890, 920

Source: Japanese Standard Institute; K. F. International, Inc.

The size of sliding windows for wooden houses is based on the traditional window size. Sizes other than those presented in the tables can be acceptable subject to the agreement between supplier and user.

There are other standards for wooden sliding glass windows and wooden flash doors. There are no performance requirements as in the case of aluminum and steel doors, door sets and windows.

Although some wooden materials are specified in the standard, any wooden materials can be used if accepted by the user.

For aluminum doors and windows, application for testing should be made to the Material Standards Section, Standards Department, Industrial Technology Agency.

Import Tariffs

There are currently no tariffs on wooden doors and windows. For other doors and windows, the import tariffs are temporarily fixed at about 4 per cent. (See Table 34.)

Table 34
Import Tariffs on Doors and Windows

Wooden doors and windows	none
Steel doors and windows	3.9%
Aluminum doors and windows	4.1%

Source: Japanese Tariff Association, K. F. International, Inc.

As tariffs are temporary, they are reviewed every year. Over the next two or three years, the tariff rate is not expected to increase. However, since April 1889, a 3 per cent sales tax has been in effect.

8 POINTS TO NOTE IN APPROACHING THE JAPANESE MARKET

Key Elements

Although many importers stress the importance of quality, finishing and packaging, the most important element is the design of the doors and windows. Finishing the product is a close second in importance.

It is difficult to determine precisely which designs will attract buyers; but for windows the key design element is the thinness of the window grid. The reason Andersen windows are so widely accepted by Japanese architects and end users is that the grids are thinner than other imports.

For window finish, white on the outside with a natural look on the inside is preferred. One wooden window manufacturer stresses the importance of Canadian wood for windows. According to him, compared with U.S. woods, Canadian woods have a finer grain because they grow in more northerly regions.

For outside doors, a gloss finish in dark colours (e.g. oak, ebony, rosewood and other dark coloured wood) is preferred. Interior door colouring must be co-ordinated with total interior design. Oak colour, light brown and white are preferred.

Finishing or the assembly of doors and windows is also important. All connecting parts should be cleanly assembled so that doors and windows appear as if they are made from a single block of wood.

Another concern in entrance doors is that imported doors from North America and Europe are not suitable for Japanese climate and house design. Japan is relatively humid and the humidity changes considerably every season. As well, entrance doors are usually installed where sunshine, rain and temperature directly affects them.

To increase door exports to Japan, it might be necessary to establish a contact who can refinish and provide maintenance service. A company called Homax has successfully imported Sauder doors by refinishing them in Japan to meet local climatic conditions.

Packaging is also important especially for doors. Many importers complain about poor or lack of packaging. In the JIS standard, at least paper or other packaging for every door and window is required.

Priority Market Segments

Market segments are considered from the following viewpoints:

- types of houses in which imported doors and windows might be installed;
- type of buyers; and
- geographic market.

Types of Houses

In types of houses, the custom built house market has the highest potential for imported doors and windows as the owner of the house usually makes the decisions. The next highest market potential is for 2 x 4 houses, then top-of-the-line prefabricated houses.

The 2 x 4 house system is especially interesting since the market has been growing. Further, as they are factory-produced houses, the quantity per order is larger than for custom built houses.

Buyers

The first priority should be to leading 2 x 4 housing makers. Because of the scale of 2 x 4 activity, there isn't a problem with market size. It must be noted, however, that recently large builders have begun to import doors and windows directly.

The second priority is architects' offices as they often decide which doors and windows will be installed in the houses they design.

Another, probably more promising and less conventional, approach is to sell know-how and expertise. This is especially recommended for wooden windows because for this product, Japan is about 15 to 20 years behind Europe and North America.

As there have been many recent efforts to produce wooden windows in Japan, there is strong demand both for window components and system know-how. The know-how is particularly necessary to progress from the current artisanal level of production to mass production.

Geographic Area

The Tokyo metropolitan area is the largest selling market, especially since purchasing power there is very high. The other major geographic market is Osaka, also due to purchasing power.

Hokkaido has the highest penetration level for wooden doors and windows and local window manufacturers are interested in expansion. However, purchasing power is lower and imports are not generally in such strong demand.

Competition and Exchange Rates

In the Japanese market, prices are not decided on the basis of production effectiveness and/or product performance. Rather, competitors sell their products at or close to the prices of their competitors.

The current exchange rate is highly favorable for imported products from the U.S. and Canada. If the yen becomes much stronger, it will be obvious to many Japanese manufacturers that in the near future they will lose price competitiveness. Thus a major portion of aluminum and steel windows and doors will probably be produced and assembled overseas.

Offshore production is also an issue for wooden windows. As they are relatively new to the market, demand is not large enough for manufacturers to achieve economies of scale.

One manufacturer confided that in the future they will buy raw materials from Canada, as Canadian wood has dense grain, and then assemble and finish the products in Eastern Europe where political stability is much better than in Southeast Asian

countries. This, in spite of the better wood working technology and workmanship available in Southeast Asia.

The Successful Importer

At present, despite limited sales, no Canadian exporter has a major position in the import market.

Sauder flash doors are imported by Homax, who claim they provide some inspection and refinishing of the doors before selling them.

To be successful, Canadian suppliers must have good products and they must be willing to invest the time and money required to develop the market and commit themselves to long term business development in Japan.

Swedish Match doors sell fairly well. They are handled by a trading company, Gadelius, which was founded and owned by Swedish management. The company has a number of staff members with Class 1 architect licences which enables them to advise potential customers, who are mainly architects, in a professional manner. This is an important factor to consider as an importer may require an architect's licence to be able to provide extensive support like installing doors and windows.

It is reported that the main reason Andersen windows sell well in Japan is because of the product design. That is to say that the marketing efforts of the importers have not been that critical to sales success.

Role of Canadian Government in Promotion

Importers in Japan hope that the governments of overseas manufacturers will continue to put pressure on the Japanese government to accept international standards. For example, to change the fire regulations to recognize that wooden doors and windows are not inferior to aluminum and steel in terms of protection of the interior of a house from a neighbourhood fire.

Continued assistance in market-development activities is also necessary.

9 TRADE EXHIBITIONS AND IMPORTANT ASSOCIATIONS

Major Trade Shows

International Housing Fair

Organized by International Housing Fair Committee (c/o Katsunaga Building, 1-6-19 Akasaka, Minato-ku, Tokyo 107; Tel: 03-589-3930; Fax: 03-589-3809). This is a new show and 110 companies including 4 or 5 from overseas will exhibit.

Good Living Show

Organized by International Exposition Association (4-7-24 Harumi, Chuo-ku, Tokyo 104; Tel: 531-3371). This the oldest and largest exposition. There will be some 400 exhibitors of which about 30 per cent are overseas companies.

Jutaku Setsubi Ten (Home Equipment Exhibition)

Organized by Japan Management Association (3-1-22 Shiba-Koen, Minato-ku, Tokyo 105; Tel: 03-434-1391; Fax: 03-434-8067). About 250 companies will exhibit and more than 30 will be foreign companies. The Home Automation Exposition is held at the same time.

Zenkoku Tategu Taikai at Hachinohe

Organized by Zenkoku Tategu Kumiai Rengokai Jikko Linkai [the tateguya's association] (3-25-2 Konakano, Hachinohe, Aomori 031; Tel: 0178-43-4314). This is the twenty-third year of this exposition and about 30 to 40 companies will exhibit. The headquarters of the national tateguya association is located in Tokyo (Higashi-Matsushita-cho 48, Kanda, Chiyoda-ku, Tokyo 100; Tel: 252-5340).

This exposition will provide a good opportunity to learn about the role of tateguya in door and window production.

Key Governmental and Industrial Organizations

Nippon Sash Association
Kyodo Building Minami-Aoyama
Minami-Aoyama 5-11-2, Minato-ku, Tokyo 107
Tel: 03-409-1308/03-400-9800

Hokkaido Wooden Window Association
c/o Sapporo Mokko Center
Hakkan 7-jo 9-4-33, Nishi-ku, Sapporo, Hokkaido
Tel: 011-661-1311

Wooden Window Sash Committee
c/o Ohara Sanwa Co.,Ltd.
6-4-13, Umeda, Adachi-ku, Tokyo 123
Tel: 03-849-4521

Hokkaido Wooden Window Association Members

Itogumi Mokuzai
8-5, Kita 3-jo, Chuo-ku
Sapporo 060
Tel: 011-261-8341

Ohta Mokko
1-11, Higashi 3-jo, Memuro-cho
Kasai-gun 082
Tel: 01556-2-2346

Kimura
Higashi 2-chome, Kita 6-jo, Higashi-ku
Sapporo 065
Tel: 011-721-4311

Kyokko Mokko
5-chome, Nagayama 4-jo,
Asahikawa 078-02
Tel: 0166-48-8448

Kubo Mokko
2-chome, Minami 8-jo
Asahikawa 078-11
Tel: 0166-31-9389

Kumagai
21-chome, Minami 8-jo
Asahikawa 078-11
Tel: 0166-31-6065

Kondo Mokuzai
3-chome, Higashi 6-jo
Asahikawa 070
Tel: 0166-23-1221

Sakamoto Tategu Seisakusho
Kita 10-chome, Nishi 4-jo
Nakahyotsu-cho 096-11
Tel: 01537-3-3960

Sapporo Mokko Center
4-33, Hakkan 7-jo 9-chome, Nishi-ku
Sapporo 002
Tel: 011-661-1311

Sapporo Land Home Kikaku Center
57-100, Taihei 10-jo 2-chome, Kita-ku
Sapporo 062
Tel: 011-772-5962

Shinooka Mokko
15 Higashi Sonai
Kitami 099-08
Tel: 0157-36-5421

Shingu Shoko
7-1, Kinji 2-jo
Sapporo 063
Tel: 011-544-1011

Imoo Tategu Kogyo
21-11, Higashi 2-jo Minami
Obihiro 080
Tel: 0155-24-5348

Taiyo Kogyo
6-1-74 Nagayama-cho
Asahikawa
Tel: 0166-48-2118

Tamai Tategu
4-11 Nagayama-cho
Asahikawa
Tel: 0166-48-3189

Donan Hiba Seizai
166 Aza Mizuhori-cho
Esashi 043
Tel: 01395-3-6311

Nitto Mokuzai Kogyo
2-6 Asahi-cho
Asahikawa 070
Tel: 0166-51-1101

Nord
Kata-7 Nishi-2, Kita-ku
Sapporo 060
Tel: 011-758-3446

Hakozaki
Minami-cho 3
Tokaru-cho 099-04
Tel: 01584-2-2477

Fukagawa Rinsan
Aza Hirosato 63-2 Otoe-cho
Fukagawa 074-12
Tel: 01642-5-1418

Furano Ensen Kagu Tategu Kumiai
10-5 Honcho
Furano 076
Tel: 0167-22-2927

Horii Tategu
Nishi 1-jo 4-chome
Memuro 082
Tel: 0155-62-1076

Matsuyama Tategu Seisakusho
Nishi 1-jo, Minami 4-chome
Obihiro 080
Tel: 0155-23-6814

Maruzen Mokuzai
Katsura 4-15
Kushiro-cho 088-06
Tel: 0154-37-1561

Marutama Sangyo
Nitta 7
Tsubetsu-cho 092-02
Tel: 01527-6-2111

Yasumoto Tategu Seisakusho
2-5, Hakkan 8-jo 12-chome, Nishi-ku
Sapporo 063
Tel: 011-661-1733

Yamakawa Mokko
Minami 32-chome, Nishi 1-jo
Obihiro 080
Tel: 0155-48-3739

Wooden Window Sash Committee Members

Dai-ichi Mokko
Aza Naganumafu 35, Kawatogawa, Noshiro
Akita 016-01
Tel: 0185-54-1071

Tokushu Mokka Kogyo
177 Shimo-Numata-cho, Numata
Gunma 378
Tel: 0278-23-2622

Ohara Sanwa
6-4-13 Umeda, Adachi-ku
Tokyo 123
Tel: 03-889-6601

Kamo Tategu
16-6 Kotobuki-cho, Kamo
Niigata 959-13
Tel: 0256-52-0893

Kyowa Mokko
22-2 Kowada Minami, Suwa
Nagano 392
Tel: 0266-52-0774

Kihara Mokuzai Kakojo
17-38 Okui-cho, Toyama
Toyama 930
Tel: 0764-41-1423

Sansui Living
Shimoizaka 220, Uchida-cho
Wakayama 649-64
Tel: 0736-77-6066

Tanaka Mokuzai Kogyo
288-1 Akaike, Kourikagawa
Tokushima 779-12
Tel: 0884-42-1130

10 CONCLUSIONS

The Changing Market Presents Opportunities

For the previous several years, the Japanese housing market has been changing in terms of the quality of the houses. Although still small compared with European and North American standards, Japanese houses are changing from basically being shelters to high-quality living places.

As a result, the characteristics sought by consumers in the components used in houses, such as doors and windows, are also changing.

Owners are looking for more than pure performance. They want components with a natural look, and they appreciate wooden components. Thus wooden doors and windows are increasingly demanded.

More and more potential home buyers are interested in the components used in the construction of their houses and are playing an important role in the purchasing decisions. This represents a significant change in the Japanese market where, in the past, buyers were not interested in specific components.

Another trend, which is a result of the increased use of air conditioning and central heating, is that new houses are being designed with air tightness and energy savings in mind.

Although under current fire regulation standards, wooden entrance doors and windows are largely prohibited, they have de facto acceptance because of enforcement practices. Also, standards are being revised to allow more general use of wooden windows and doors.

Opportunities from the Technology Gap

The technical know-how of Japan's wooden window industry is 15 to 20 years behind that of Europe and North America. Domestic supply cannot meet the demand and, as a result, opportunities are excellent provided that the designs meet Japanese tastes.

There is an excellent opportunity to license wooden window technology to Japanese manufacturers. This is because, despite the fact that Japan is many years behind in know-how, there are strong efforts being made to catch up, particularly in Hokkaido.

Numerous small "tateguya" are making custom windows, but the main opportunity is to provide the means for a manufacturer to go from custom fabrication to the level of mass production. This calls for licensing of design and manufacturing systems in addition to hardware sales.

Warping Concern

Because humidity in Japan is higher than in Canada, exterior wooden doors are reported to warp within a matter of months. Even domestic manufacturers have had this problem with domestic wood. Some have developed special coatings and provide re-coating service every five years.

The water content in wooden doors imported from North America is reported to be 9 per cent whereas that of Japanese domestic wooden material is 15 per cent. Thus, Canadian doors are considered to be "too dry."

Although small, there are some Japanese manufacturers of wooden doors who are successful because their doors are made in the Philippines using ebony, rosewood, Chinese quince, and teak. Observers comment that because these are hardwoods and resistent to humidity, warping is not usually a problem.

In contrast to entrance doors, there are better market opportunities for interior doors because weathering is not an issue. What is essential is that they have good design, finishing and a reasonable price.

Style and Design Preferences

Canadian trees have a slower growth rate and therefore a denser grain than those grown in U.S. The denser grained wood is preferred by the Japanese. Thus in terms of wooden materials, Canada has the superior opportunity. This is particularly true in the high end of the market, which is the main area to exploit.

Many respondents have indicated that a positive feature of imported windows is they do not require further modification or refinishing. This is not the case for doors.

However, there is a distinct design preference among Japanese for the thin grid found in the Andersen products.

Aluminum windows and metal entrance doors still dominate the Japanese market in spite of the change in consumer preferences towards wooden doors and windows.

Think Long Term and do Homework

Finally, it is essential in Japan for the seller to think of the long term, and take care to establish the "right" partnership. The important point is that products must be exposed in the market for a long period of time, and sellers must be patient. In practical terms, this also means that care must be taken is selecting an agent, as it is undesirable to switch after a few years.

External Affairs and International Trade Canada
Affaires extérieures et Commerce extérieur Canada
Canada